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FACTORS ASSOCIATED WITH THE UPTAKE OF SAFE MALE MEDICAL CIRCUMCISION AMONG MALES AGED 18 TO 49 YEARS AT MASAKA REGIONAL REFERRAL HOSPITAL .A CROSS-SECTIONAL STUDY.

Gilbert Kabanda, Lydia Anywar

Medicare Health Professional's College

Abstract

Introduction:

Objectives: To determine the factors associated with the uptake of Safe Male Medical Circumcision among males aged 18-49 years at Masaka Regional Referral Hospital.

Methodology:

The study was based on a purposive non-probability sampling method in which 120 were the target but 100 participants fully participated, the study employed a structured questionnaire which was administered by the researcher and the research assistants to collect data.

Results:

The majority of participants; 48% were in the 18-24 age group, protestants were 43%, married were 53% and 38% were farmers. Most respondents 40% had attained primary level of education, 68% had support from a female partner, 59% had SMMC as a choice of type of circumcision and 43% chose TMC because of community respect. The majority of the respondents 38% had the perception that uncircumcised men enjoyed sex more than circumcised men, 83% were satisfied with SMC and 42% had personal fear of bleeding. More so, most of the respondents 88% were circumcised from Government facilities, 54% were not referrals from HIV testing fertilities and 87% received health education before SMC services.

Conclusion:

The majority of respondents had female partnership support for VMMC services and also the majority of the respondents were not referrals from HIV testing facilities. Clients who had Medical circumcision were satisfied with the services and ready to recommend them to their friends and sons.

Recommendations:

The Ministry of Health needs to plan on how to provide continuous health education about male circumcision and this should be done mostly through women and different media in different languages understood by local communities to overcome the beliefs about traditional circumcision to SMC.

The Ministry of Health should also empower HIV testing units to facilitate HIV testing services and health education on SMC which shall increase referrals for the services.

Keywords: Balanoposthitis, Paraphimosis, Phimosis, Safe, Prevention, Male circumcision, Uptake, Heterosexual, Submitted: 2023-05-09 Accepted: 2023-07-27

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1. Background of the study.

Medical Male circumcision is the removal of all or part of the foreskin of the penis by a trained healthcare professional (UNAIDS, 2019). Studies show that male circumcision reduces acquiring HIV-1 by 60% but not complete protection against HIV infection and also reduces the prevalence of sexually transmitted infections in both men and women like genital herpes, Human papillomavirus, which causes cervical cancer.

Male circumcision is one of the most common procedures performed worldwide to treat adverse medical conditions such as Phimosis, Paraphimosis, Penile cancer, and balanoposthitis while religious and cultural considerations are the major reason behind the practice. Male circumcision is performed globally but the estimated percentage of circumcised males in each country or territory varies considerably where global prevalence was 35.7% and approximately half of the circumcisions were for religious or cultural reasons, In countries that lacked data it was assumed 99.9% of Muslims and Jews were circumcised hence it's estimated that 38%of men globally are circumcised.

Voluntary Male Medical Circumcision has been recommended by the Joint United Nations program on HIV/AIDS (UNAIDS) and the WHO since 2007 as part of the broader package of innervations designed to reduce HIV incidence among men in a geographical epidemic because it is; an overtime, efficient, safe and cost-effective intervention. Following the 2016 political declaration on ending AIDS the Global Fast Track Targets were set including VMMC (UNAIDS 2021).

Circumcision is prevalent in as much as 93% of the countries in Northern Africa compared to 62% of countries in Sub-Saharan Africa whereby the procedure is done for religious purposes in the Western and Northern parts of Africa but seldom performed in Eastern and Southern regions of the continent in which circumcision is, often, a rite of passage into adulthood (Taiwo and E. Oluwabunmi, 2017).

World Health Organization (WHO) identified 14 countries with high rates of heterosexual human HIV transmission and historically low levels of VMMC coverage and these were prioritized for scale which include; Botswana, Ethiopia, Kenya, Lesotho, Malawi, Mozambique, Namibia, Rwanda, South Africa, Eswatini, Uganda, Zambia, Zanzibar and Tanzania.

From 2014 to mid-2014 around 5.8 Million men were circumcised to prevent HIV. United States President's Emergency Plan For AIDs Relief(US PEPFAR) supported over 15 Million circumcisions in 14 countries in Southern and Eastern Africa from 2007 to 2017(Stephanie Met al, 2018).

In 2017 only 3 priority countries including Ethiopia, Kenya, and Tanzania were likely to have reached the VMMC coverage target of 80% at the national level but not in sub-national areas and 2020, WHO revealed that male circumcision is an efficacious intervention of HIV prevention if carried out by Medical Professionals under safe conditions, VMMC program implementation was severely impacted by COVID-19 in 2020 with service disruptions causing a steep drop in the number of men and boys receiving VMMC services from 4.1 Million in 2019 to 2.8 Million in 2020.

Uganda is one of the countries with a low prevalence of male circumcision and adopted VMMC in 2010 although uptake of VMMC services is increasing, it remains below the target set by the Government of Uganda where MoH aimed to circumcise 80 %(4.2 Million) of all uncircumcised men aged 15-49 years by end of 2015.

VMMC prevalence among Ugandan men aged 15-49years increased from 26% in 2011 to 43% in 2016, further increased from 42.2% in 2016 to 57.5% in 2020 but wide regional variations persist, ranging from 69% in the Mid-Northern region to 14% in the Mid-Northern region.

1.1. General objective.

To determine the factors associated with the uptake of safe male medical circumcision among men aged 18-49 years at Masaka Regional Referral Hospital.

1.2. Specific objectives.

- To establish the socio-cultural factors associated with the uptake of safe male medical

circumcision among men aged 18-49 years at Masaka Regional Referral Hospital.

- To assess the individual factors associated with the uptake of safe male medical circumcision among men aged 18-49 years at Masaka Regional Referral Hospital.
- To determine the health facility-related factors associated with the uptake of safe male medical circumcision among men aged 18-49 years at Masaka Regional Referral Hospital.

2. METHODOLOGY.

2.1. Study design.

A cross-sectional descriptive quantitative study design was used to collect data from participants because it involved collecting data from a single point in time; hence, it was time sensitive to fit my limited schedule and was less expensive.

2.2. Study area.

The study was conducted at Masaka Regional Referral Hospital located 132km by road away from Kampala City in Masaka district. It is the main health care facility in the district serving 3 million people from nine districts which include; Masaka, Kalungu, Kalangala, Ssembabule, Lyantonde, Lwengo, Bukomansimbi and Rakai. This study was conducted between 20th, December 2022 to 10th January 2023 because it was the most convenient time for the researcher.

2.3. Study population.

The study population included males in the age group of 18 to 49 years at Masaka Regional Referral Hospital.

2.4. Sample size determination.

The sample size was determined using the Kish and Leslie(1965) formula of sample size determination.

Where;

n= Desired sample size

Z= the standard variant (normal Z-score) corresponding to the confidence interval i.e. for the confidence interval of 95% Z=1.96

P= the estimated prevalence of Safe medical male circumcision in Masaka i.e. 19 %(MONITOR 2021)

Q = (1-p)

(1- 0.19) = 0.81

e = acceptable error/required precision of the estimate=0.07

$n= Z^2PQ$

e^2

$n= 1.96^2 \times 0.19 \times 0.81$

$(0.07)^2$

n = 120 respondents

Therefore, the study involved 120 respondents.

2.5. Sampling technique.

A purposive non-probability sampling technique was used to obtain data from respondents that participated in the study because the study was specific for males aged between 18 and 49 years.

2.6. Sampling procedure.

The researcher identified individuals who had the characteristics that fitted the purpose of the study. Every day the researcher interacted with 10 males attending Masaka Regional Referral Hospital aged between 18 to 49 years who were willing to voluntarily participate in the study which was done for 12 days though not all participants participated fully making 100 participants in total at the end of the study.

2.7. Inclusion criteria.

The study included males aged 18 to 49 years at Masaka Regional Referral Hospital who participated voluntarily.

2.8. Exclusion criteria.

The study excluded males under 18 years and those above 49 years, and males in the age group of 18-49 years who were not willing to participate voluntarily in the study.

It also excluded uncircumcised men because it was a retrospective study.

2.9. Definition of variables.

2.9.1. Dependent variable.

Uptake of safe male medical circumcision.

2.9.2. Independent variable.

Social-cultural like age, religion, employment, shame, and education level.

Individual factors like knowledge, fear of injection, fear of HIV testing before the procedure.

Health facility-related factors like Poor implementation of services, distance to the health facility, and cost of carrying out the procedure.

2.10. Data collection tools.

The researcher used a questionnaire because it gave accurate and quick data for quantitative research.

2.11. Data collection procedure.

The researcher explained the purpose of the study to the respondents, sought their consent, and informed them that the study was voluntary. The researcher got information from the respondents as he recorded it himself with a serial number on every questionnaire for each respondent.

2.12. Quality control.

2.12.1. Pre-testing of the research tool.

The researchers retested the effectiveness of the questionnaire tool in Medicare Health Professionals College. The researcher eliminated irrelevant questions from the questionnaire if were found ineffective to the respondents and added relevant questions, for accurate data collection.

2.12.2. Piloting of the study.

The researcher developed a questionnaire with close-ended questions which were pre-tested at Masaka Regional Referral Hospital to check the effectiveness, reliability, and suitability of the Research.

2.13. Data analysis and presentations.

The researcher tallied the information manually using a pen, paper, and a tally sheet and the information got after tallying was presented in the form of frequency distribution tables, pie charts, and bar graphs using a Microsoft excel word document with narratives following.

2.14. Data management.

After checking for completeness and accurately filled questionnaires, they were kept under lock and key and those with errors were corrected before keeping them for privacy and confidentiality of the respondents.

2.15. Ethical consideration.

An introductory letter was got from the Research Ethical Committee of Medicare Health Professionals College introducing the researcher to the Human Resource and Research Office of the Hospital which granted permission to the researcher to collect data from the respondents. The researcher sought consent from the respondents and assured them at most privacy and confidentiality on the information gotten from them which was ensured by the use of serial numbers instead of their names on the questionnaire forms.

Participation was entirely voluntary.

3. RESULTS.

3.1. Demographic characteristics of respondents.

The target study sample was 120 respondents at Masaka Regional Referral Hospital. 6(5%) of the participants declined to consent to participate in the study, 7(7.4%) failed to complete and 7(7.4%) never returned the filled Questionnaires. Therefore, 100 respondents managed to fully participate in the study making a response of 80.2%.

Table 1 shows that the majority of respondents 48(48%) were between the age of 18-24 years, 33(33%) were between 25-34years and the minority were above 35 years. By religion majority 43(43%) were protestants 24(24%) were Catholics, 18(18%) were born again and the rest were others. By occupation most of the respondents 38(38%) were farmers, 23(23%)were business owners, 21(21%) were unemployed and the minority 18(18%) were employed. Majority of the males 53(53%) were married, 33(33%) were single, 5(5%) were divorced and minority 9(9%) were others.

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Table 1: **Shows characteristics of respondents by demographic data (n=100)**

Respondent's characteristics	Variables	Frequency	Percentages (%)
Age	18-24	48	48
	25-34	33	33
	35-49	19	19
Religion	Catholics	24	24
	Protestants	43	43
	Muslim	12	12
	Born again	18	18
	Others	3	3
Occupation	Farmer	38	38
	Employed	18	18
	Business owner	23	23
	Unemployed	21	21
Marital status	Single	33	33
	Married	53	53
	Divorced	5	5
	Others	9	9

3.2. Social cultural factors associated with the uptake of Safe Male Medical Circumcision (SMMC).

Figure 1 shows that majority of the respondents 40(40%) had attained primary level of education while the minority 8(8%) had attained none.

Figure 2 shows that majority of the respondents 68(68%) chose Yes implying they had support from a female partner while 32(32%) chose NO implying they didn't have support from female partner.

Table 2 shows that majority of respondents 59(59%) received circumcision services under integrated Male Medical Circumcision and minority 2(2%) had other forms of circumcision services.

Table 3 shows that among the respondents who had a choice of Traditional Male Circumcision, majority 20(53%) chose a reason of Community respect and the minority 1(3%) had other reasons.

3.3. Individual factors associated with the uptake of Safe Male Medical Circumcision.

Table 4 shows that the majority of respondents 34(34%) strongly agreed that circumcised men enjoy sex more than uncircumcised men while the minority 12(12%) had no opinion.

Table 5 shows that the majority of respondents chose yes implying that they were satisfied with SMC services and would recommend them for their Friends or sons while the minority chose No implying they were not satisfied with SMC services and wouldn't recommend them for their friends of sons.

Table 6 shows that majority of the respondents 42(42%) gave bleeding as their personal fear for SMMC services while 38(38%) gave pain and the minority 20 (20%) had other fears.

3.4. Hospital related factors associated with the uptake of SMMC.

Figure 3 shows that majority of respondents 88(88%) had SMC services from Government fertilities while the minority 12(12%) had SMC services from Private fertilities.

Table 7 shows that majority of respondents 54(54%) chose No implying they were not referrals from HIV testing fertilities while the minority 46(46%) chose Yes implying they were referrals from HIV testing fertilities.

Figure 4 shows that majority of the respondents 87(87%) chose Yes implying they had health

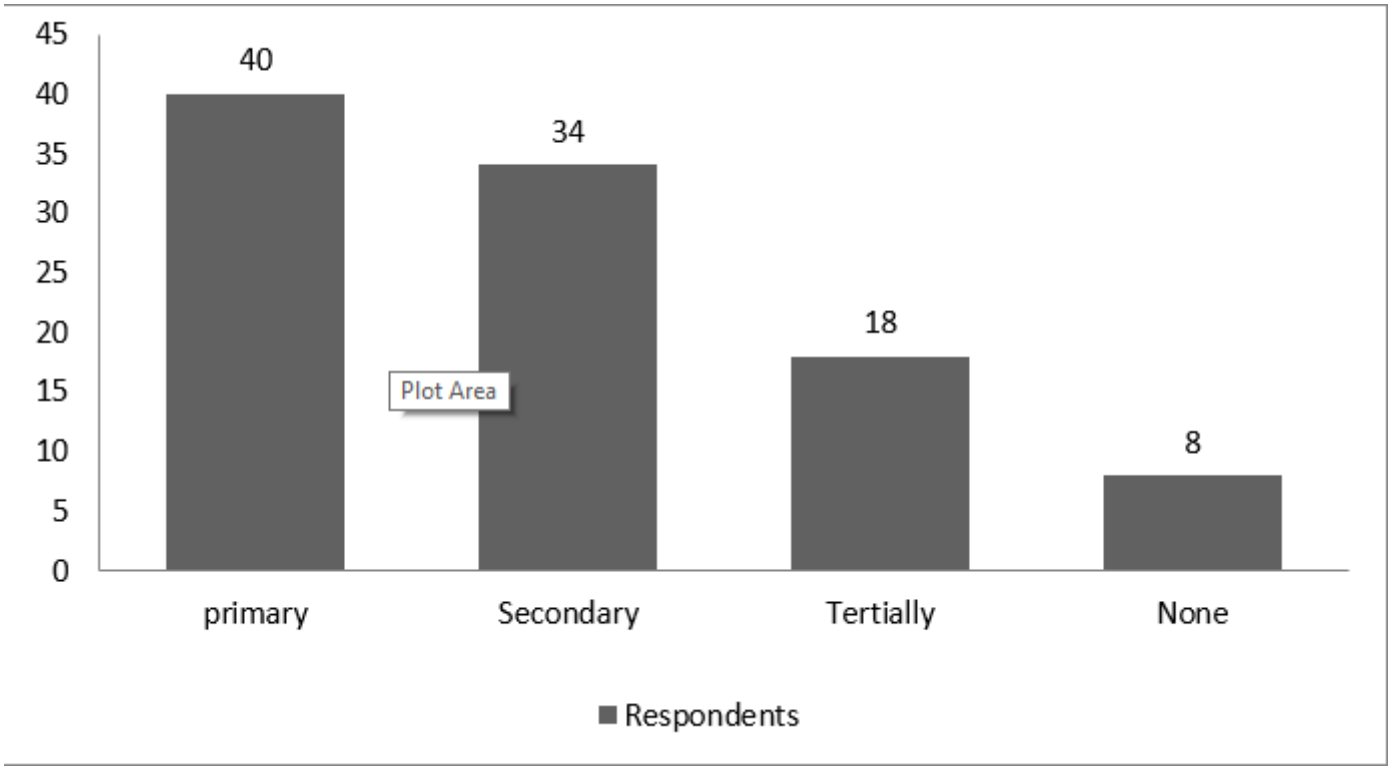

Figure 1: **Distribution of respondents by education level, where n=100.**

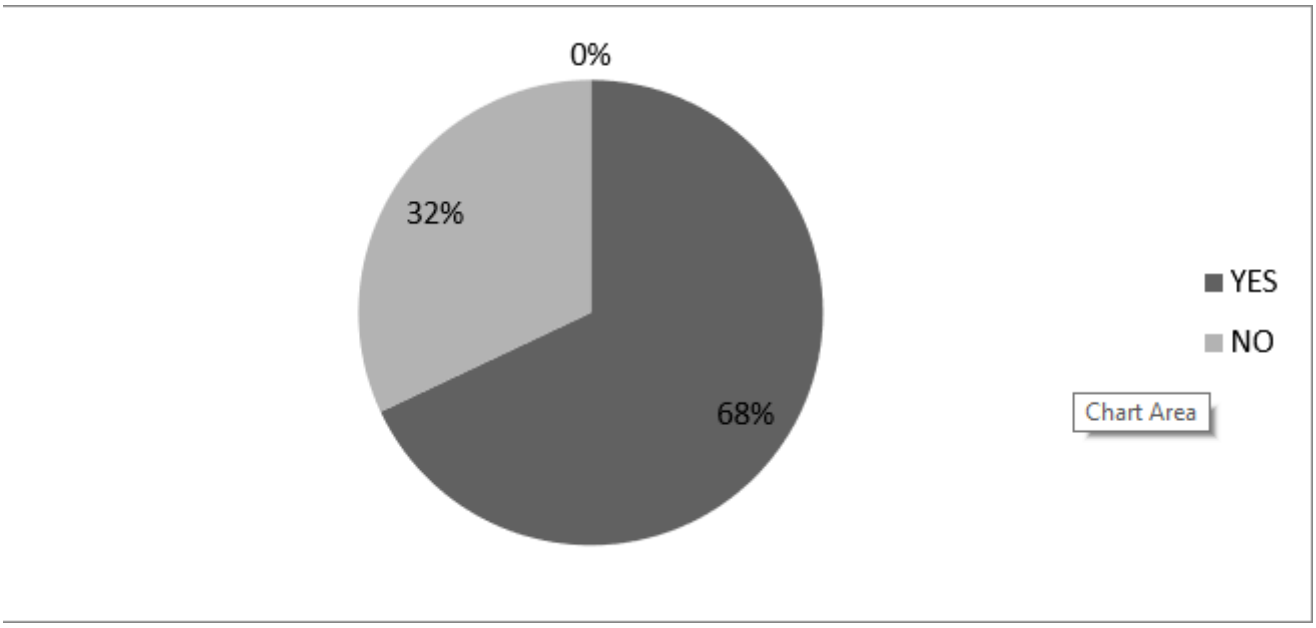

Figure 2: **Distribution of respondents by support from female partners where n=100.**

Table 2: **Distribution of respondents according to type of male circumcision where n=100**

Response	Frequency	Percentage (%)
SMMC	59	59
TMC	38	38
Others	3	3
Total	100	100

Table 3: **Distribution of respondents according to reason for undergoing Traditional Male circumcision where n=100**

Response	Frequency	Percentage (%)
Community respect	20	53
Social manhood values	12	31
Hygienic purpose	5	13
Others	1	3
Total	**38**	**100**

Table 4: **Distribution of respondents according to the perception of enjoying sex after circumcision where n=100**

Question	Response	Frequency	Percentage (%)
Circumcised men enjoy sex more than uncircumcised men	Strongly agreed	34	34
	Agreed	38	38
	No opinion	12	12
	Disagreed	16	16
	Total	**100**	**100**

Table 5: **Distribution of respondents according to satisfaction of circumcision services where n=100**

Question	Response	Frequency	Percentage (%)
Recommends SMC to a Son or Friend	Yes	83	83
	No	17	17
	Total	100	100

Table 6: **Distribution of respondents according to personal fears where n=100**

Response	Frequency	Percentage
Pain	38	38
Bleeding	42	42
Others	20	20
Total	**100**	**100**

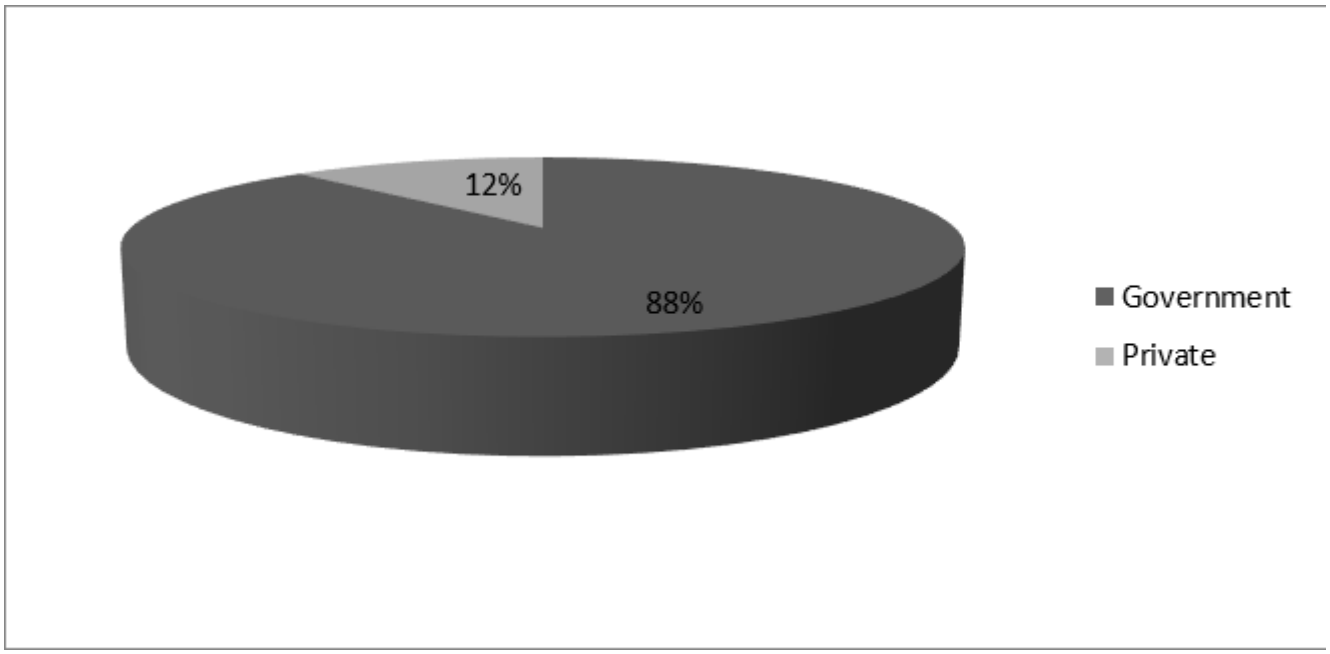

Figure 3: **Showing type of Health fertility Males received SMC services.**

Table 7: **Showing referral from HIV testing fertilities or Units where n=100**

Question	Response	Frequency	Percentage (%)
Referral from HIV testing fertility or Unit	Yes	46	46
	No	54	54
	Total	**100**	**100**

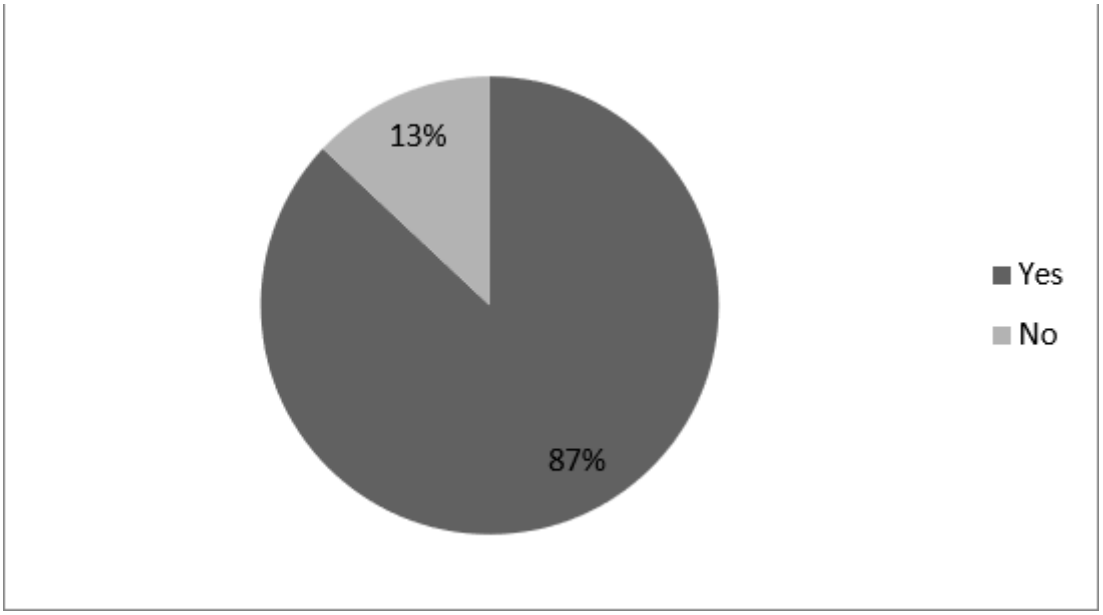

Figure 4: **Showing Health education before SMC Services where n=100**

education before SMC services while the minority 13(13%) chose No implying that they had no health education before SMC services.

4. Discussion.

4.1. Respondent's demographic characteristics.

The study revealed that the majority of respondents (48%) were men from 18-24 years of age, (33%) were men from 25-34 years while the minority (19%) were men from 35-49 years this is because the researcher interacted more with respondents below the age of 30 during the process of data collection and also this is fairly young population that is sexually active hence in need of circumcision to benefit from its protective benefits against HIV/AIDS. On the religion of respondents, the majority (43%) of respondents were Catholics, (24%) were Protestants,(18%) were born again while the minority (12%) were Muslims. This study's results were correlating with results from the study conducted in rural Uganda by Lubogo et al, 2019 where half of the respondents were Roman Catholics (50%). Respondents gave a reason for reducing HIV/AIDS transmission risks since the religion doesn't allow most of the barrier family planning methods which would have protected them in the first place.

4.2. Social cultural factors associated with the uptake of SMMC.

The majority of participants (40%) had attained primary education, (34%) had secondary education, (18%) had attained tertiary education while the minority (8%) had none. This is because most of the respondents who attained primary education moved out of school early and got married early which further pushed them for circumcision and also support from female partners. This compared to those with tertiary level who gave a reason for failure to get time off from their formal work to go for VMMC services and long recovery period which inconvenienced their workplace duties. This is in agreement with the results from the study that was carried out by Lubogoet al, 2019 where (66.4%) had attained primary education.

The study revealed that the majority of participants (68%) were influenced and supported by their female partners to seek VMMC while the minority (32%) were never influenced nor received support from their female partners. These findings correlate with the study that was conducted in South Africa by Kaufman et al, 2018 which reported that female participants were supportive of male peers' decision to seek VMMC and the female participants' beliefs regarding VMMC benefits like protection against HIV/AIDs infection, STIs and cervical cancer.

Most of the respondents (59%) chose SMMC while the minority (38%) chose Traditional male circumcision. The majority (53%) of those who chose Traditional male circumcision gave community respect for their choice, (31%) social manhood values, (13%) gave hygienic purposes while the minority (3%) gave other reasons. These results correlate with the results from the study that was conducted in Eastern Cape, South Africa by Douglas et al, 2018 where (92.2%) preferred Traditional male circumcision because of associated social determinants like manhood values, (38.9%) wanted to attain community respect, (33.5%) accepted for hygienic purposes.

4.3. Individual factors associated with the uptake of SMMC.

The majority of respondents (42%) chose bleeding as their fear for SMMC services, (38%) chose pain while a minority (20%) gave other reasons like long healing time, and fear of HIV testing before the procedure. This is because most of them didn't have enough information about SMMC services and some confused it with other forms of circumcision like TMC. This disagrees with the results from the study that was conducted in Machinga in Malawi by Masese et al, 2021 where (63%) of participants reported fear of pain during the procedure and (31%) reported fear of bleeding after the procedure.

Regarding the satisfaction of respondents with circumcision services, the majority (83%) chose yes implying that they were satisfied with the

circumcision services while the minority (17%) chose no implying they weren't satisfied with the circumcision and would not recommend them to their sons or their friends. Most of them who were satisfied were informed about the benefits of circumcision in reducing the risks of HIV/AIDs transmission, the procedure not being painful, and also improved hygienic purposes after being circumcision. These results correlate with the results from the study that was conducted in Bureba town Council, Kazo District by Mark, 2022 which established (94.74%) of the circumcised respondents expressed satisfaction with SMC services provided and (33.33%) of the respondents did not recommend SMC to their sons or friends.

The study revealed the majority of respondents (34%) and (38%) strongly agreed and agreed respectively that circumcised men enjoyed sex more than uncircumcised men, (16%)disagreed while the minority (12%) had no option about it. Some of those who agreed with the perception that circumcised men enjoyed sex more than the uncircumcised gave a reason for not using condoms as a preventive measure for protection against STIs since circumcision plays the same role and also that circumcision increases the sensitivity of the glans penis which increases the enjoyment during sex. These results correlate with those from the study that was conducted in Njombe town council by Mhagama and Mushi, 2019 where (60.3%) of the respondents strongly agreed and (17.3%) agreed that circumcised men enjoyed sex more than uncircumcised men.

4.4. Health-related factors associated with the uptake of SMMC.

The majority of respondents (88%) were circumcised from Government health fertilities while the minority (12%) were circumcised from private health fertilities. Most of the respondents who were circumcised by Government fertilities gave several reasons including free transport, Public sensitizations that were frequently done by the fertilities, and services that were free compared to those offered at private hospitals. These results correspond to those from a study that was conducted in Ndola, Zambia by Kateule E et al, 2016 where (88.0%) and (63.2%) ranked government hospitals and clinics among the top two places where one could get circumcised and the majority knew that the services at those locations were free.

More than half of the respondents (54%) chose No implying they were not referrals from HIV testing fertility or unit while a minority (46%) chose Yes implying they were not referrals from HIV testing. This is because most of the clients fear going for HIV testing and counseling. HIV testing fertilities also don't offer health education about VMMC to create awareness of where the services are offered and their benefits. These results are not in line with results from the study that was conducted in Botswana by Marukutira et al, 2022 where 12864 men were eligible for testing, 6416 participants were uncircumcised but only (10%) underwent SMC, and (78%) declined referral giving reasons like not having time for VMMC.

The majority of the respondents (87%) chose yes implying they had health education before SMC services while the minority (13%) chose No implying they had no health education before SMC. Most of the respondents who chose Yes reported they had SMC services from Government fertilities where VMMC services are supported by NGOs hence they are fully facilitated with professional health workers like Nyendo Health Centre III where health education is offered with demonstrations and free pants to put on after being circumcised. These results correlate with the results from the study that was done in a fishing community in rural Uganda by Lubogo et al, 2019 where most of the respondents who utilized SMMC (80.6%) had adequate health education and knowledge of the benefits of SMMC.

5. Conclusion.

Generally, the findings of the study found that the majority of respondents had female partnership support for VMMC services and also the majority of the respondents were not referrals from HIV testing fertilities. Clients who had Medical circumcision were satisfied with the services and ready to recommend them to their friends and

sons.

6. Study limitations.

The time allocated for conducting the research was very limited for the researcher.

Respondents were unwilling to give the required information due to negative attitudes, suspiciousness, and speculations.

Inadequate resources such as funds used in conducting the research activities.

7. Recommendations.

- Male circumcision is considered part of a comprehensive HIV prevention package for heterosexually acquired infection in men (WHO, 2022).
- The Ministry of health needs to plan on how to provide continuous health education about male circumcision and this should be done using different media such as radios, newspapers, television sets, and health talks in different easily understood languages by the local communities to promote uptake of Safe Male Circumcision.
- The Government through the Ministry of health should raise funds to enable it to provide male circumcision at free costs and encourage non-government organizations such as TASO and international agencies such as USAID to come in and help promote Safe Male Medical Circumcision.
- Other research on the same problem must be carried out. Health fertilities need to raise awareness of people on MC through health education.

8. Acknowledgement.

Great thanks go to the Almighty God who has given me strength, encouragement, determination, and hopes throughout my life and academic journey.

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I would also like to thank the administration of Masaka Regional Referral Hospital, especially the Hospital administrator plus the OPD staff which allowed me to conduct my data collection at the facility. Vote of thanks goes to the respondents that participated in the study

9. List of abbreviations and acronyms.

AIDS : Acquired immunodeficiency syndrome
AIS : AIDS Indicator Survey
BMC : Biomed Central limited
DHS : Demographic and Health survey
HCT : HIV Counseling and Testing
HIV : Human Immunodeficiency Virus
MoH : Ministry of Health
SARS-CoV2: Severe Acute Respiratory Syndrome Corona virus 2
SMMC : Safe Male Medical Circumcision
STD's : Sexually Transmitted Diseases
TASO : The AIDS Support Organization.
TMC : Traditional Male Circumcision
TT : Tetanus Toxoid
US PEPFAR: United States President's Emergency Plan for AIDS Relief
UNAIDS: United Nations Program on HIV and AIDS
USAIDS: Unites States Agency for International Development
UPHIA : Uganda Population-Based HIV Impact Assessment
VMMC : Voluntary Male Medical Circumcision
WHO: World Health Organization

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